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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/790,777 | 03/03/2004 | Hiroyuki Tanaka | 118910 | 3205 |
| 25944 | 7590 | 03/06/2006 | EXAMINER | |
| OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320 | | | RODEE, CHRISTOPHER D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1756 | |

DATE MAILED: 03/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/790,777 | Applicant(s) TANAKA ET AL. | |
| | Examiner Christopher RoDee | Art Unit 1756 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6/7/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-6 and 20, drawn to a toner, classified in class 430, subclass 111.4.
- II. Claims 7-13, drawn to an image-forming method, classified in class 430, subclass 124.
- III. Claims 14-19, drawn to an apparatus, classified in class 399, subclass 320.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in another and materially different process, such as forming a pattern by heat in an imaging member so that heated areas become more adhesive as compared to unheated areas, contacting the imaging member with the toner, removing toner from the non-adhesive areas, and placing an adhesive coversheet over the toner so that an imaged article is produced.

Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another and materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the process as claimed can be practiced by hand, such as by charging the surface of the image-bearing body with a hand operated roller, shining a light or the sun on the image-bearing body through a

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stencil to form a charge pattern, sprinkling toner on the exposed imaging-bearing body by hand, transferring the toner to a receiver by hand application of a transfer medium, and fusing the toner to a medium by pressing the toner into the receiver.

Inventions I and III are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct if they do not overlap in scope and are not obvious variants, and if it is shown that at least one subcombination is separately usable. In the instant case, subcombination I has separate utility such as in a heat-imaging system as described above. See MPEP § 806.05(d). The toner is not physically present in the apparatus as currently presented. Further, even if the toner were present it represents a material acted upon by the apparatus and would not define a structural limitation of the apparatus. See MPEP 2115.

Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

During a telephone conversation with Joel Armstrong on 24 February 2006 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6 and 20. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Rejections - 35 USC §§ 102 & 103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5, 6, and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Hayase *et al.* in US Patent 5,753,399.

Hayase discloses a toner containing 100 parts by weight of binder resin, 1 to 150 weight parts of colorant, and 5 to 40 parts by weight of a low-softening point substance (Abstract; col. 9, l. 4-16). As seen in Figure 1, the toner of Example 1 has a storage modulus G' of about 6×10^3 dyn/cm² (i.e., 6×10^2 Pa) at 180 °C. In Example 1's toner (col. 22, l. 25+), the low-softening point substance is a wax in an amount of 11.7 % and the toner has a size of 6.5 µm. The toner is used in a developing device incorporated in an image forming apparatus. The toner is processed for 5000 sheets and the components of the developing device were examined. The toner was not adhered to the toner application roller, the developing sleeve, and an elastic blade. Further, no offset was observed at a fixing temperature of from 160 to 190 °C during oilless fixation (col. 25, l. 24-39). Other Examples that are pertinent to the instant claims include Example 9 and 11, which appear to have G' values within the scope of the claims at 180 °C

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because the disclosed values at from 155 to 190 °C are within the claims' scope and Figure 1 shows that G' in the invention's toners has a continuous change without a change in slope between 155 and 190 °C. This would suggest to the artisan that the G' values of these toners are within the scope of the claims. The results in these examples also show no soiling of the developing sleeve and toner application roller. Figure 6 shows the toner in a toner cartridge.

Because the toner has the requisite storage modulus and content of release agent, and because the toner of Hayase is disclosed as not giving adherence of the toner to the toner application roller, developing sleeve and elastic blade, and because no-offset was during fixing from 160 to 190 °C, it appears that the toner of Hayase will inherently have an adhesive force to an aluminum sleeve within the scope of the claims.

Claims 1, 5, and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Iida *et al.* in US Patent Application Publication 2002/0051924.

Iida discloses Toners 1-14 comprising a binder resin, a wax, and a colorant. Each of these toners has a storage modulus (G') at 180 °C within the scope of the claims as seen in Table 4-2 noting that the minimum and maximum value of G' between 120 to 180 °C is within the range of 5.0×10^2 and 1.0×10^5 Pa (noting that 1 Pa = 10 dN/m²). Toner sizes range from 4.1 to 9.9 µm as seen in Table 4-3. The toners have a wide range of temperatures where fixing takes place but no offset occurs as seen in Table 5-1. These non-offset temperatures include 180 °C. The artisan would understand that offset occurs because toner adheres to the fixing roller and that no offset indicates that no toner adheres to the fixing roller.

Because the toner has the requisite storage modulus and release agent, and because the toner is disclosed as not giving offset during fixing including temperatures of 180 °C, it

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appears that the toner of lida will inherently have an adhesive force to an aluminum sleeve within the scope of the claims.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over lida *et al.* in US Patent Application Publication 2002/0051924.

lida was discussed above and that discussion is incorporated here. In each exemplified toner, there is 4 parts by weight of the wax component. The reference teaches that up to 20 parts by weight of wax (i.e., release agent) can be used. If this teaching is followed, then there would be 15.3 weight % of wax ($20 / (100 + 20 + 5 + 6)$) in the toners. Substituting this value into the equation of claim 2 gives $G' \geq 0.875 \times (100 - 15.3) / 15.3 \times 1000 \text{ Pa}$ or $G' \geq 4.8 \times 10^3 \text{ Pa}$. Each of Toners 2, 3, 4, 7, and 8 must have a G' at 180 °C meeting this requirement because there G' values of from 120 to 180 °C are within the scope of the claims and above $4.8 \times 10^3 \text{ Pa}$.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use 20 weight parts of wax on the toners of lida while also producing a toner with the G' values of Toners 2, 3, 4, 7, or 8 because the amount of wax discussed in the rejection is specifically disclosed by the reference and G' values discussed are also specifically disclosed by the reference. The artisan would have found it obvious to combine the teachings of the wax in the exemplified toner while also optimizing the G' values to those at or near those specifically taught by the reference because the artisan would expect these features to produce a toner without offset. A lack of offset would suggest to the artisan that there is no adherence of the toner to fixing roller materials.

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Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over lida *et al.* in US Patent Application Publication 2002/0051924 in view of Inaba *et al.* in US Patent 5,827,632.

lida was discussed above and those discussions are incorporated here. lida does not disclose inorganic or organic particles sizes and amounts specified in these claims but it does disclose external flowability additives may be added to the toner (§ [0098]). Useful additives include silica, titania, or alumina.

Inaba teaches that a combination of a hydrophobicized silicon compound and a hydrophobicized inorganic fine powder permit the formation of stable images (Abstract). The reference also teaches that these compounds are known to be effective as flowability improvers (col. 3, l. 10-30). Example 1 discloses a specific combination of additives that proves effective. This toner uses 1.2 weight parts of a 51 nm titania and 0.8 parts of 40 nm silica. The other examples also present effective additive combinations.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the external additives of Inaba in the invention of lida because lida teaches external additives for fluidity purposes as effective and Inaba discloses a specific combination of additives that does not embed into the toner and maintains excellent fluidity and image forming capabilities.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cdr
28 February 2006



CHRISTOPHER RODEE
PRIMARY EXAMINER